September 6, 2002

Kenneth R. Sikora, Jr.
Environmental Program Manager
Federal Highway Administration
PO Box 568
Montpelier, VT 05601

RE: Environmental Assessment Chittenden County Circumferential Highway Reevaluation of the 1986 FEIS Segments A-F

Dear Mr. Sikora:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, we have reviewed the Environmental Assessment (EA)/Reevaluation prepared by the Vermont Office of the Federal Highway Administration (FHWA)/Vermont Agency of Transportation (VTrans) for the Chittenden County Circumferential Highway (CCCH) in Chittenden County, Vermont.

Background

EPA last offered comments on the project through NEPA based on our review of the Final Environmental Impact Statement in 1986. At that time we found the EIS responsive to our comments on the Draft Environmental Impact Statement and that the FHWA/VTrans's selected alternative was the least environmentally damaging, practicable alternative. The purpose of the CCCH presented in previous NEPA analyses over the years has remained the same. Namely, the CCCH is proposed as a 15.8 mile limited access facility that would serve as an alternate route for travel on Route 2A,15, 117 and 127 through Colchester, Essex Town, Essex Junction and Williston, Vermont. The highway was proposed to be constructed in segments. In 1993, Segment C-F, 4.5 miles of road between Route 117 and 2A in Essex, was opened as an undivided two-lane highway within the designated four-lane right of way. Because the remaining segments have not yet been built, the reevaluation of the original environmental analyses was required.

EPA's Review

The current EA/Reevaluation was prepared to "identify any project induced impact changes that may have occurred since the 1986 publication of the FEIS that might require a Supplemental Environmental

Impact Statement be prepared." EPA reviewed the EA/Reevaluation with a similar focus, consistent with guidance from the Council on Environmental Quality (CEQ), to determine if the FHWA/VTrans "has made a substantial change in a proposed action that is relevant to environmental concerns".[1] More significantly, we examined the EA/Reevaluation to determine if "there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts"[2] as a means to determine whether we believe a supplemental EIS must be prepared.

While we believe earlier analyses presented a reasonable discussion of the direct impacts of the CCCH, there was very little analysis of secondary impacts, and it was based on many of the same assumptions used in the current EA. While secondary impacts may not have been our primary concern when the original EIS was developed, our understanding of the growth impacts of transportation projects has evolved in the intervening sixteen years. Recent studies have shown the strong connection between transportation and land use, and the public has become increasingly concerned about sprawl. EPA is concerned about the environmental impacts of sprawl, which contributes pollution to our air from vehicle emissions and to our water from contaminated runoff, and it fragments open space and wildlife habitat.

EPA is pleased to see the efforts of the FHWA/VTrans to provide attention to secondary impacts in the EA, an effort that reflects acknowledgment that the consideration of secondary impacts is an important part of the decision-making surrounding this transportation project. However, we believe the extensive analysis of potential development the highway may induce near the interchanges is too limited and that the analyses provided do not provide sufficient information to fully describe the potential secondary impacts the proposed project will bring. Specifically we are concerned that, at a minimum, the reevaluation needs to be strengthened to address the following:

- the EA/Reevaluation does not analyze the secondary environmental impacts of the induced growth, such as water quality impacts from runoff, wetland impacts from direct fill as well as upland development, fragmentation of habitat and demand on water supplies, among others;
- the analysis leaves many important questions unanswered about the ability of transit and Transportation Demand Management/Transportation System Management (TDM/TSM) measures to meet project objectives;
- the analyses does not address the project's impacts on impaired waters; and
- the analysis of growth impacts is based on unsupported assumptions about growth patterns and housing preferences, among others, and that more must be done to validate these assumptions.

EPA appreciates the opportunity to comment on the EA/Reevaluation document and we view the potential for significant, yet largely undisclosed secondary impacts as a "new circumstance" [40CFR §

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[1]CEQ's Forty Most Asked Questions, Number 32, Supplements to Old EISs, Page 25.

[2]Ibid.

1502.9 (c)(1)(ii)] that was not accounted for in the original analysis and is not comprehensively addressed in the current analysis. Moreover, we believe that decisions about the significance of the secondary impacts of the project and the adequacy of proposed mitigation are not possible based on information available in the EA/Reevaluation document. The original EIS for this project was prepared 16 years ago. Since then, our understanding of the potential for secondary environmental impacts of highway projects has improved. At the same time, alternatives appear to be available now (transit, TDM/TSM) that were not as feasible then. Given the state's strong leadership in smart growth and the expense of this highway project, close attention to the potential for significant effects related to secondary impacts is warranted. For all of these reasons, we believe that a supplemental EIS would best inform the public on the most cost-effective and environmentally sound manner in which to improve the transportation system in Chittenden County. Therefore, we strongly urge you to reconsider your decision not to issue a
supplemental EIS.

We are very willing to work with FHWA/VTrans to offer technical assistance and guidance as additional work is done to expand the consideration of secondary impacts and alternatives prior to final decision-making concerning the project. We anticipate that this work can be completed within a relatively short time frame. Please contact Timothy Timmermann of EPA's
Office of Environmental Review at 617-918-1025 or Rosemary Monahan of EPA's Smart Growth Program at 617-918-1087 if you have any questions about this letter.

Sincerely,

Robert W. Varney
Regional Administrator

cc:

Richard J. Ranaldo, P.E.
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Technical Attachment to Comments on the Environmental Assessment Chittenden County Circumferential Highway Reevaluation of the 1986 FEIS Segments A-F

Purpose and Need/Alternatives

Only limited information was presented on the traffic model, making it difficult for us to evaluate the presence of a continuing need for the project. Specifically, it is unclear whether the proposed Burlington-Essex rail line has been incorporated into the traffic model. If it has not, we believe that, at a minimum, the model should be run for a new alternative both with and without the rail line and feeder bus system in operation, to determine whether this system, in combination with Transportation System Management (TSM) and Transportation Demand Management (TDM) measures, could improve transportation efficiency and reduce safety problems in Chittenden County to a degree that the need for the highway project changes. As you know from the Draft Environmental Assessment for the Burlington-Essex Rail Project released by the Chittenden County MPO, VTrans, and the FHWA in June 2002, the rail line is expected to carry 1,310 passengers in 2005 and 1,990 in 2025. These numbers are not trivial, and an analysis of their impact on the project should be incorporated into the analysis of the CCCH project and the information made public. In addition, TSM and TDM measures should be seriously analyzed to determine whether they should be implemented in place of the highway, or in addition to it.

In addition to our concerns about deficiencies in the traffic modeling offered above, it is also unclear whether induced travel is factored into the transportation model. Induced travel is different from induced growth, and it can be measured as an increase in vehicle miles traveled that is attributable to a transportation infrastructure project that increases capacity. The components of induced travel include longer trips, an increase in total trips taken, changes in timing of trips, switching of routes, and switches between modes of transportation. Traditionally, transportation models assumed that travel demand is inelastic, and total travel will be constant irrespective of changes in the time cost of travel. More recently, however, transportation planners have begun to understand the phenomenon of induced travel. For example, Nolan and Lem (see discussion of this paper elsewhere in these comments), conclude that the theory of induced travel can certainly not be refuted, and is largely confirmed. We agree and believe that induced travel should be accounted for in the impact analysis.

The predicted improvements in performance of the transportation system if the highway is built appear to be modest. Therefore, it would be helpful if the analysis provided information to demonstrate whether the same relative level of improvement can be achieved by cheaper means, such as a rail system (the capital costs for which are estimated to be $21,244,000) and TSM and TDM measures, which typically are relatively inexpensive. Specifically, a comparison between No-Build and A/B Build in 2023 shows travel time savings throughout much of the study area of less than a minute, and the reduction in volume on much of the road network is less than 10%. It

remains unclear whether these same improvements can be achieved using less environmentally damaging approaches such as transit, TSM, and TDM. This comparison is worthwhile given that the MPO's last transportation plan (A Twenty-Year Vision for Transportation in Chittenden County, published in 1997) concluded that on a regional scale, the single most effective approach to addressing transportation issues is the implementation of a "Growth Center"- based development pattern. The plan also noted that this approach resulted in less total travel with less energy consumption and air pollution. Further, of the transportation alternatives, a public transit-based future was shown to hold the most promise for much the same reasons, although with caveats about the challenges of building a good transit system. Although Chittenden County is in attainment for ambient air quality standards, since vehicles are a source of pollutants including carbon monoxide, particulate matter, volatile organic compounds, oxides of nitrogen, and hazardous air toxics, an alternative that minimizes vehicle emissions is environmentally preferable. Not only do these tailpipe and evaporative emissions impact air quality, but these airborne contaminants also can impact water quality when deposited on lakes and other waterbodies.

Assumptions of the Analysis

Growth Patterns

We are very concerned that the EA is based on an assumption about the extent of growth that may not be completely accurate. The EA asserts that the highway will affect solely the pattern of growth, but not the extent. This assertion is based on papers such as that by Noland and Lem (Induced Travel: A Review of Recent Literature and the Implications for Transportation and Environmental Policy, 2002). The EA asserts that Noland and Lem determined that highways have only a limited influence on causing growth within a geographic region, but they do affect the spatial distribution of development by influencing access to land. This is not our reading of Noland and Lem's conclusion; they were simply citing the conclusion of another author in their literature review. In fact, Noland and Lem conclude that increasing road capacity tends to encourage sprawl development while also being ineffective at solving congestion problems. Further, they state that the goal of many transportation projects is to reduce congestion. However, the studies they cite strongly suggest that adding highway capacity will not be an effective solution for achieving long-term congestion reduction goals. Instead they argue that alternative approaches may be far more effective than merely adding more capacity. Examples they provide suggest that provision of transit services and redevelopment of existing land (e.g., brownfields and infill development) may also result in less regional congestion, while also serving critical economic development needs.

An example of a highway project that is predicted to affect the extent of growth can be found in New Hampshire's I-93 corridor. A study commissioned this past year by the NH Department of Transportation has shown that widening an 18-mile segment of I-93 from Manchester to the Massachusetts state line will result in approximately 41,000 more people and 22,000 more jobs in the study area in the year 2020 above and beyond the growth that is expected if the highway is not widened. That is, they concluded that their highway project will affect the extent of growth in the

region. Whether the same will be true in Vermont cannot be determined unless FHWA/VTrans conducts a similar analysis. The results of this type of investigation should be incorporated into the work to prepare a supplemental NEPA analysis as a critical part of the effort to determine whether the project will result in significant impacts. EPA remains willing to work with VTrans/FHWA to identify a suitable method for conducting such an analysis.[3]

Housing Preferences

The EA asserts that the number of households in Chittenden County increased during the 1990s while the number of individuals in each household decreased. We are not questioning these data, but we are questioning the conclusion that in combination these two data sets suggest a preference for individuals to live in less dense residential communities. First, the decrease in number of individuals per household is a nationwide pattern that reflects changing demographics, not housing preferences. Households are shrinking, with married couples with children representing 26% of all households, whereas it was approximately 40% a few decades ago. A third of the home-buying market is over 45, and national market studies are showing that they want smaller houses, smaller yards, proximity to social activities, and a community with a focal point.

Second, the increase in population of many Chittenden County communities undoubtedly can be attributed to a number of forces, but it cannot be concluded that it reflects peoples' preferences for low density development unless a market survey is done. Indeed, in 1999 the Maine State Planning Office conducted a market survey of recent home buyers in the state, and found that although the pattern of development in Maine is similar to that in Vermont (dominated by outward migration), 43% of home buyers who end up in a rural or suburban area would be interested in living in a traditional neighborhood development were it available. By traditional neighborhood development they mean a neighborhood that is walkable from one end to the other, that has a civic core of some kind, that is proximate to basic goods and services, that is designed to keep through traffic down to reasonable levels, and that incorporates both important public space, and for each resident, private space. The problem, of course, is that traditional neighborhood developments are rarely built in Maine. In part, low density residential development is built because that is what local zoning allows, and because it is easier to get financing for it. Vermont may be different from Maine, but without conducting a market survey, it cannot be concluded that the majority of individuals prefer to live in less dense residential communities.

Concerns about the EA/Reevaluation

[3] EPA and FHWA plan to cosponsor training sessions in the next few months on the range of methods available for analyzing secondary impacts, and using the NH I-93 “Delphi process/Expert Panel” as a case study. We would welcome attendance by staff from VTrans, VT FHWA, the MPO, and others at this training, which will be conducted by Sam Seskin of Parsons-Brinckerhoff.

Although we believe that FHWA/VTrans understand their obligation to fully disclose the complete suite of impacts of the CCCH project through the NEPA analysis, we found the analysis lacking in several areas.

First, if after study it is found to be accurate that the highway will have no impact on the extent of growth but will simply redirect and focus it, then FHWA/VTrans must disclose the negative impacts of the new development on the inner core communities that are losing population, and on existing commercial centers. The EA/Reevaluation only analyzes half the story; it does not address the negative environmental, economic, and social impacts of potentially drawing population and jobs out of the cities in Chittenden County. As Boarnet and Haughwout indicate (Do Highways Matter? Evidence and Policy Implications of Highways' Influence on Metropolitan Development, 2000), highways influence land prices, population, and employment changes near the project, and the land use effects are likely at the expense of losses elsewhere. They conclude that transportation access is only one of several factors that has led to the decentralization of US metropolitan areas. We are not suggesting that the highway alone will drain the cities of population and jobs; indeed, as described above, there are people who do not want to live in a traditional neighborhood development, and not all business are suitable for a growth center. But it is possible that the highway will contribute to environmental, economic, and social problems of the cities, and these impacts should be studied and disclosed.

Second, we are concerned that the analysis underestimates the potential for growth outside the immediate vicinity of the interchanges. The analysis is based on an assertion that induced growth impacts from the highway will be primarily located adjacent to the interchanges that provide access to the local roadway system. That may be true in the short term, but is very unlikely to be true for the long term. Indeed, in the analysis of growth subsequent to construction of Segments C-F, of the 395 acres developed, 2/3 of the recent growth was outside the half-mile radius of the interchange. Over time, this effect of outward-spreading growth is likely to accelerate as areas near the interchange are developed. An analysis such as that conducted by NH DOT in the I-93 corridor could be used to predict where residences and businesses will be located in the year 2023, with and without full build.

Third, the EA does not analyze the secondary environmental impacts of the induced growth, such as water quality impacts from runoff, wetland impacts from direct fill as well as upland development, fragmentation of habitat, demand on water supplies, and other issues. Instead the analysis is incomplete because it is primarily focused on the direct and indirect environmental impacts of the project. Development leads to an increase in impervious surfaces such as rooftops, roads, and parking lots; these impervious surfaces affect the quantity and quality of stormwater runoff that reaches waterbodies. In a national runoff study, a 1-acre parking lot was found to produce a runoff volume almost 16 times as large as the runoff volume produced by an undeveloped meadow. In addition to changes in hydrology (and reduced groundwater recharge), development can result in increased pollutant loadings (including nutrients),and increased water temperature. In addition to impacts on streams and lakes, development can have secondary impacts on wetlands. EPA's 404(b)(1) guidelines

require an analysis of cumulative impacts, including previous wetland fills and likely future wetland losses from secondary impacts. The CEQ defines cumulative impacts as the additive environmental impacts to a region combining past, present, and reasonably foreseeable future actions. EPA recognizes that the wetland permits already have been issued for the direct impacts of the project, but FHWA/VTrans has a responsibility under NEPA to disclose impacts on wetlands from secondary development induced by the project. Because additional analysis on this point is warranted, the results should then be used to inform any decision with respect to the appropriateness of the existing Clean Water Act permits to the proposed project.

Finally, we question whether the project conforms with Vermont's exemplary laws and regulations that discourage sprawl, dating back to Act 250. More recently, in September 2001 Governor Dean signed an Executive Order that directs that all state agencies and departments to foster conservation of land in and around interstate interchanges, and to work to ensure that any development at interchanges is done in a manner consistent with 24 V.S.A. 4302. Specifically, the Executive Order states that the Agency of Transportation, prior to allocating federal or state transportation funds, including but not limited to TEA-21 funds, and prior to approving additional means of vehicular access (such as curb-cuts, drives, highways, rights-of-way) near interstate interchanges or other limited access highways, shall investigate whether lands near said exchanges should be protected from development and protected for conservation, scenic and recreational uses. Although we recognize that VTrans has worked with the interchange communities to preserve agricultural lands, we see no analysis in the EA as to whether these actions are sufficient to comply with the intent of the Executive Order. Similarly, there should be a discussion of whether the project will undercut the goals of the Downtown Bill, that is intended to foster the economic health of the state's downtowns. This project should be thoroughly analyzed to ensure that it does not undermine Vermont's land use efforts by inducing sprawl. Growth does not have to equal sprawl. Given the state's strong leadership in smart growth, and given the expense of this highway project, the public deserves a full assessment of its costs as well as benefits.

Impaired Waters and Water Quality Issues

The EA does not address the project's impacts on impaired waters. EPA is aware of at least two waters on Vermont's 2000 List of Impaired Surface Waters that could be affected by the CCCH: Allen Brook and Sunderland Brook. The added significance of these waters and the importance of controlling discharges to them should be addressed. An EPA funded restoration plan for Allen Brook titled "The Allen Brook Water Quality Improvement Plan and TMDL" is under development and a 10/22/01 progress report is available. A thorough assessment is needed of whether/how the CCCH project will be consistent with this restoration effort.

Given that a new state stormwater permit for all segments and a new NPDES construction permit for segments A-B are needed and underway, we are concerned that any old water quality certifications (including the draft project-wide water quality certification issued in 1994) are no longer relevant. Both water quality standards and stormwater permit requirements have evolved since

1994. A new water quality certification is likely needed, including a thorough review of the project's affect on the attainment of water quality standards.